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E73-10810
CR-133294

TYPE 1 REPORT #1

January 3, 1973

A. TITLE OF INVESTIGATION: Multispectral Signatures in Relation to Ground Control Signatures Using Nested-Sampling

(E73-10810) MULTISPECTRAL SIGNATURES IN RELATION TC GROUND CONTROL SIGNATURES USING NESTED SAMPLING APPROACH Progress Report, 3 Nov. 1972 - 2 Jan. 1973 (Stanford Univ.) 5 p HC $3.00 CSCL 05B, G3/13, N73-27285 Unclas 00810

B. and C. Angular and statistical variation in spectral signatures for different geological target types; relation, integration and correlation of data from ground, aircraft, and ERTS radiometric equipment for the various target types leading to their improved identification from ERTS images.

D. PRINCIPAL INVESTIGATORS: R.J.P. Lyon (P.I.)
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F. PERIOD: November 3, 1972 - January 2, 1973

ACTION REQUIRED: None

G. PROBLEMS IMPEDING PROGRESS

1. Initially funding was slow in becoming available at Stanford and little could be attempted during November. Around December 1 the program was commenced at about 2.0 man year level.

2. The early stages were directed by the Co-principal Investigator (Dr. A.A. Green) due to the absence of the Principal Investigator who was on sabbatical leave, doing research in Australia on ERTS-type spectral measurements on terrain.

3. Considerable rain and cloudy days on ERTS overpass times precluded the collection of field data.

ID	DATE	CLOUD
1111-18181	11/11/72	60%
1129-18181	11/29/72	20%
1147-18181	12/17/72	90%

H. DISCUSSION OF ACCOMPLISHMENTS DURING PERIOD

1. Physical integration of the digital data system was commenced for both the ERTS radiometers (Exotech, EGTR Model 100) and for the ISCO spectroradiometers. The system is built using a METRODATA DL620A analog-digital converter capable of sampling 18 analog channels (+2 times) at a rate of 48 samples per second. We now sample the 4 channel, EGTR units four times in a second, making up the rest with a reading of incident irradiance using a Sol-R-meter in Channel 20 and an identification (ID) in Channel 19. The metrodata control unit can be run continuously (necessary for data from mobile systems) or intermittently at pre-arranged intervals of 10 secs, 1 minute, 10 minutes, or 1-hour.

2. The two EXOTECH radiometers (EGTR units) were tested and some preliminary data taken.

3. A catalog system was evolved for the ERTS MSS imagery enabling the positive transparencies to be mounted in Polaroid plastic frames for viewing under the binocular microscope.

4. Site selection was commenced so that areas adjacent to Stanford campus could be readily accessed by vehicle. A concept was developed for selecting areas of standardized reflectance (both low- and high-reflectance values) to be used for calibration over a 12-month period. Low reflectance generally characterizes water bodies, while high reflectance occurs on bodies of white sand, limestone in quarries, and on playa lakes.

I. SIGNIFICANT RESULTS

(Relationship to applications or operational problems, including estimates of the cost benefits of any significant results)

NONE

J. PLANNING FOR NEXT PERIOD

1. Development of software to read the EGTR/ISCO data tapes directly into the IBM 360/67 computer.

K. PUBLISHED MATERIALS

None

L. RECOMMENDATIONS FOR CHANGES IN OPERATIONS ADDITIONAL EFFORT OR CORRELATION OF EFFORT/RESULTS OF ERTS

None

M. CHANGES IN STANDING ORDER FORMS

None

N. DATA REQUEST FORMS SUBMITTED

None

O. ERTS IMAGES ACQUIRED OVER STANFORD TEST AREA

See over

ERTS IMAGES ACQUIRED OVER STANFORD UNIVERSITY TEST AREA
FROM THE STANDARD CATALOG FOR US 07/24/72 TO 5/31/73

OBSERVATION ID	MICROFILM ROLL NO.	DATE ACQUIRED	CLOUD COVER	ORBIT NUMBER	PRINCIPAL POINT (C) OF IMAGE		SUN ELEV	SUN AZIM	PRODUCTS MADE					PRODUCTS RECD. AT STANFORD				
					LAT	LONG			M	S	B7	P	M9	M	S	B7	P	M9
1021-18172	10001/1226	08/13/72	0	293	3724N	12145W	55.8	124.5	x	x	x	x	x	-	-	-	-	-
1039-18172	10002/0074	08/31/72	0	544	3725N	12150W	51.9	132.5	x	x	x	x	x	-	-	-	-	-
1057-18172	10002/0598	09/18/72	20	795	3721N	12149W	47.1	140.2	x	x	x	x	x	-	-	-	-	-
1075-18173	10004/0236	10/06/72	0	1046	3729N	12144W	41.6	146.8	x	x	x	x	x	4	8	-	1	4
1093- NO FRAMES TAKEN																		
1111-18181	10004/1570	11/11/72	60	1548	3715N	12153W	30.9	153.9	x	x		x	x	4	8	-	2	-
1129-18181	10005/0498	11/29/72	20	1799	3725N	12150W	26.7	154.6	x	x		x	x	4	8	-	2	-
1147-18181	10006/0333	12/17/72	90	2050	3718N	12151W	24.5	153.4	x	x		x	x	-	-	-	-	-